

# Quick Guide

## G.R.A.S. 47AC 1/2" CCP Infra-Sound Microphone Set

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### Introduction

The G.R.A.S. 47AC is a CCP powered free-field microphone set for infra-sound measurements.

It consists of a 40AZ prepolarized microphone, a preamplifier and a low frequency adapter.

The microphone set is factory assembled and calibrated as a complete unit and should not be disassembled.

### Delivered Items

The following items are part of the delivery:

1/2" prepolarized microphone	40AZ
Preamplifier	-
Low frequency adapter	GU0262

## G.R.A.S. 47AC

### 1/2" CCP Infra-Sound Microphone Set

## Description

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The G.R.A.S. 47AC is a 1/2" CCP precision condenser microphone set for infra-sound measurements in open acoustic fields.

The 47AC is especially designed for infra-sound measurements and can measure down to 0.09 Hz. To make this possible, it is furnished with an integrated low frequency adapter with a specially designed pressure equalization system and a dedicated preamplifier. To make it possible for the microphone to measure sound with very long wavelengths, the pressure equalization system has a long settling time. It is therefore important that the 47AC is allowed sufficient time to settle in conditions with varying ambient pressure. How long depends on the specific circumstances, but about half a minute after the ambient pressure has stabilized is sufficient in most cases.

The preamplifier has TEDS for automatic sensor identification and reading of calibration data.

To benefit from 47AC's low frequency capabilities, it is important that the analyzer input module has a sufficiently low cutoff frequency. Therefore, check if your data acquisition/recording system or conditioning power supply has a high pass filter (either hardwired or user configurable) and that it is compatible with the frequencies you are interested in.

Low-frequency calibration requires the use of a special low-frequency calibrator. We therefore recommend that 47AC is sent to G.R.A.S. for calibration.

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## Important points to remember

- 47AC is factory assembled and calibrated as a whole unit and should not be disassembled.
- 47AC has a special pressure equalization system with a very long settling time. Allow the 47AC time to settle before measurements.
- The 47AC requires an input module with a very low low-frequency cutoff – no higher than about 0.07 Hz is recommended.
- Level and frequency calibration – at 250 Hz and above – can be performed using standard equipment, i.e. pistonphone and electrostatic actuator.
- Low-frequency calibration requires special equipment. We recommend that you send it to G.R.A.S. for calibration.